5. Schematic Diagrams

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Note

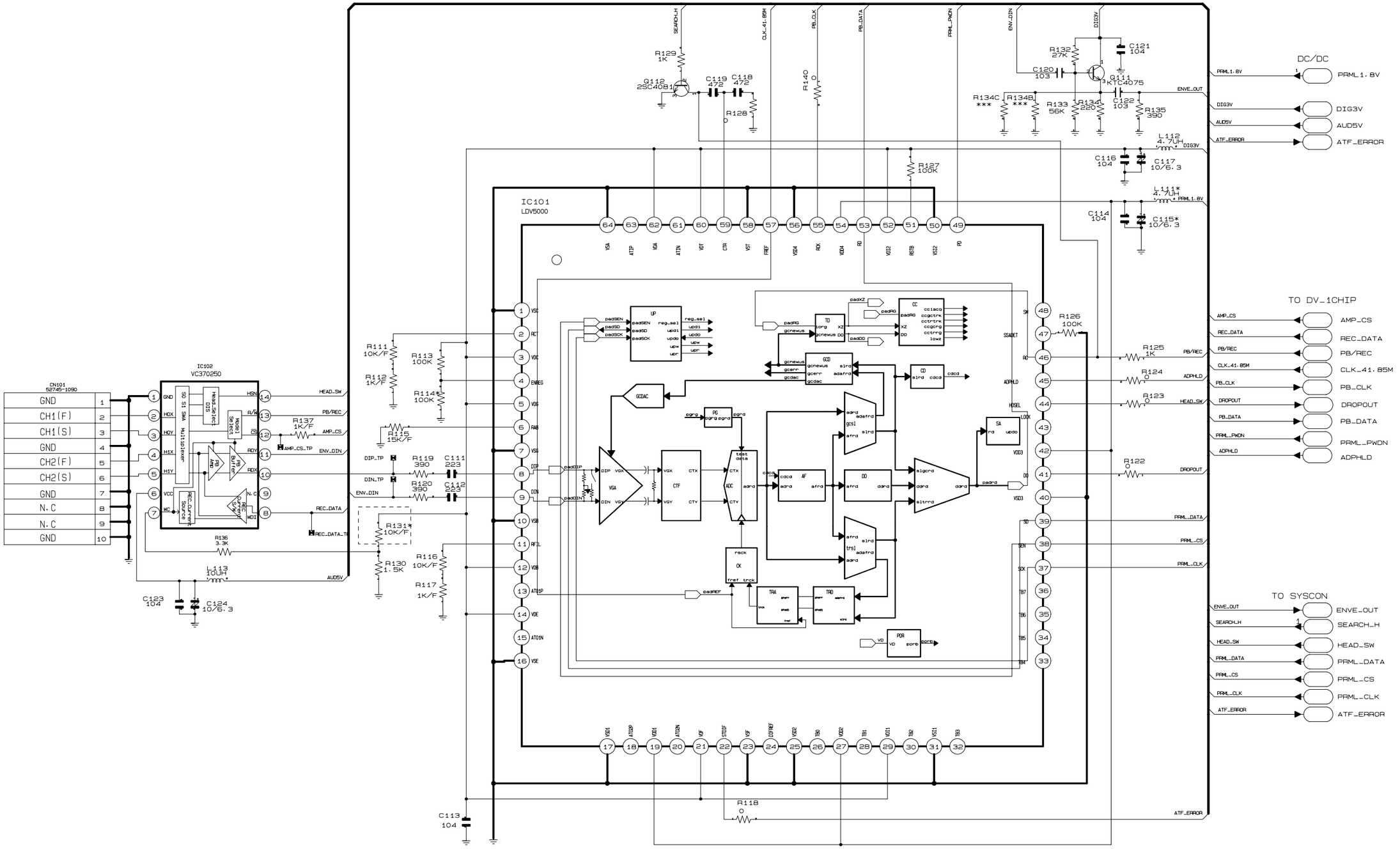
For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.

Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

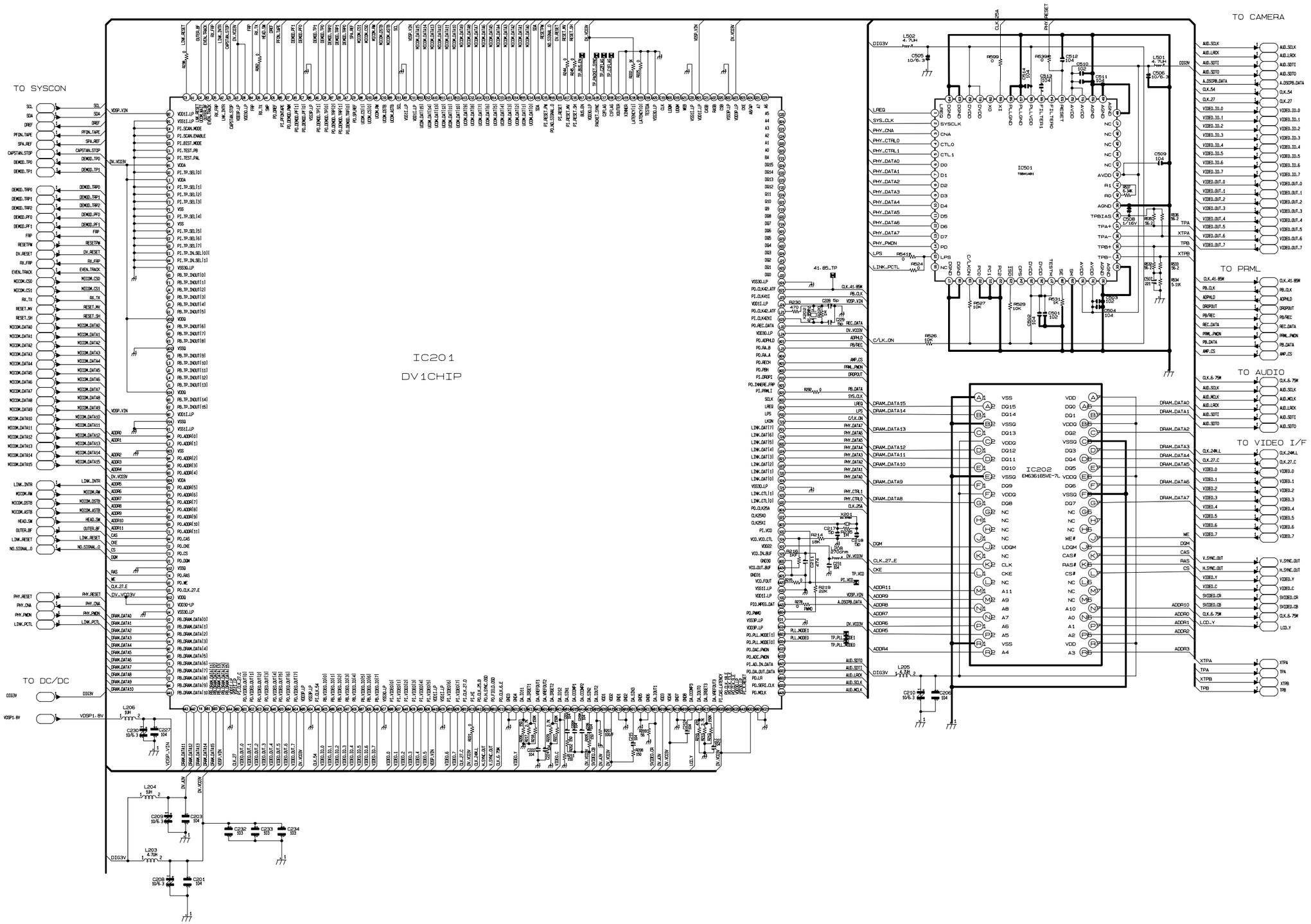
Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components.
Use only the same type.

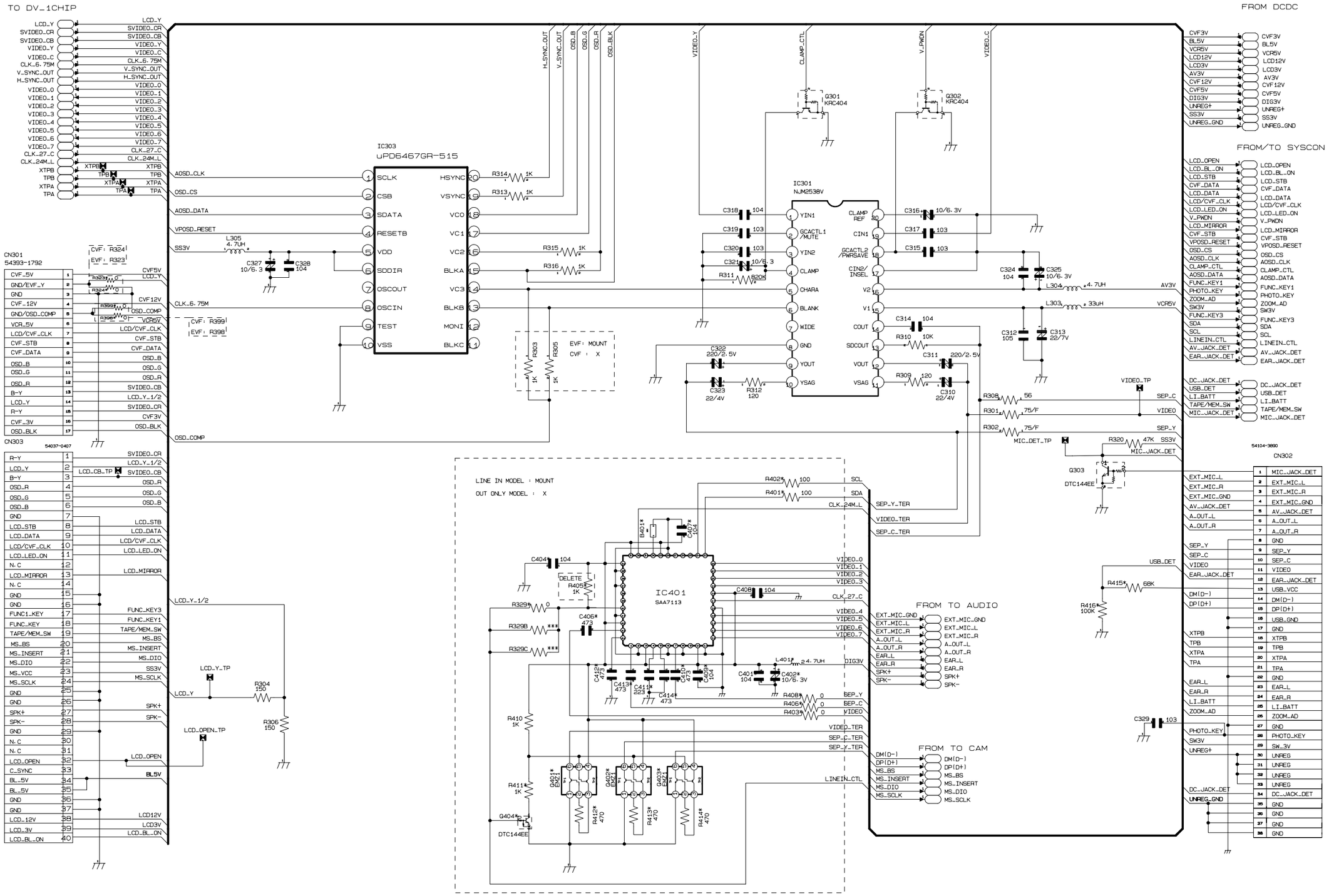
5-1 PRE AMP/PRML



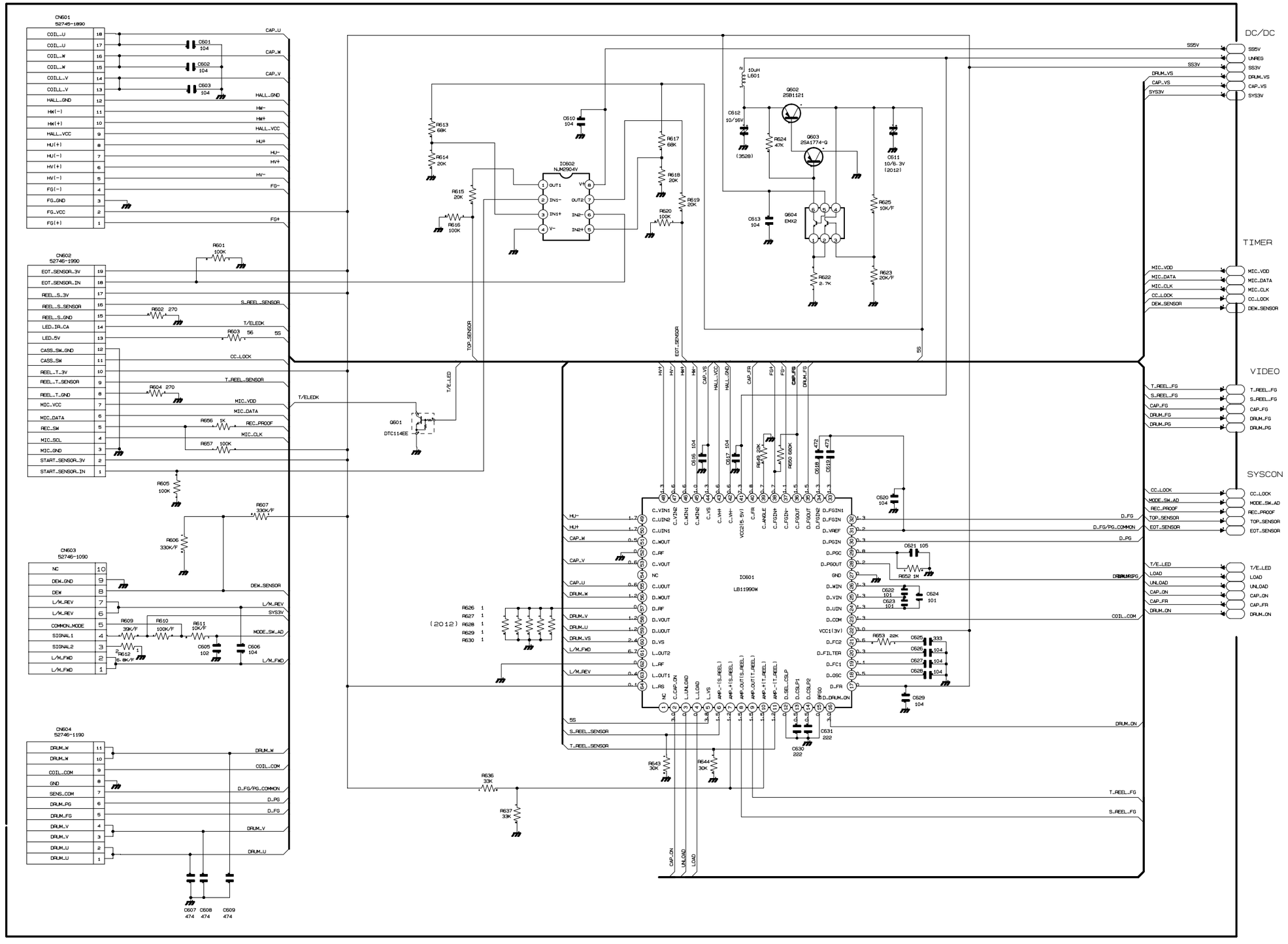
5-2 DV 1 CHIP


TO SYSCON
TO CAMERA
TO PRML
TO AUDIO
TO VIDEO I/F
TO DC/DC
IC201
DV1CHIP
IC202
EM636165VE-7L
IC501

5-3 VIDEO I/F


TO DV_1CHIP
FROM DCDC
FROM/TO SYSCON
IC303
uPD6467GR-515
IC301
NJM2538V
IC401
SAA7113
Q301
KRC404
Q302
KRC404
Q303
DTC144EE
Q404*
DTC144EE
CN301
54393-1792
CN303
54037-0407
CN302
54104-3690
LINE IN MODEL : MOUNT
OUT ONLY MODEL : X
EVF : MOUNT
CVF : X
CVF : R324
EVF : R323
CVF : R399
EVF : R398
DELETE
FROM TO AUDIO
FROM TO CAM
MIC_DET_TP
LCD_CB_TP
LCD_Y_TP
LCD_OPEN_TP
VIDEO_TP

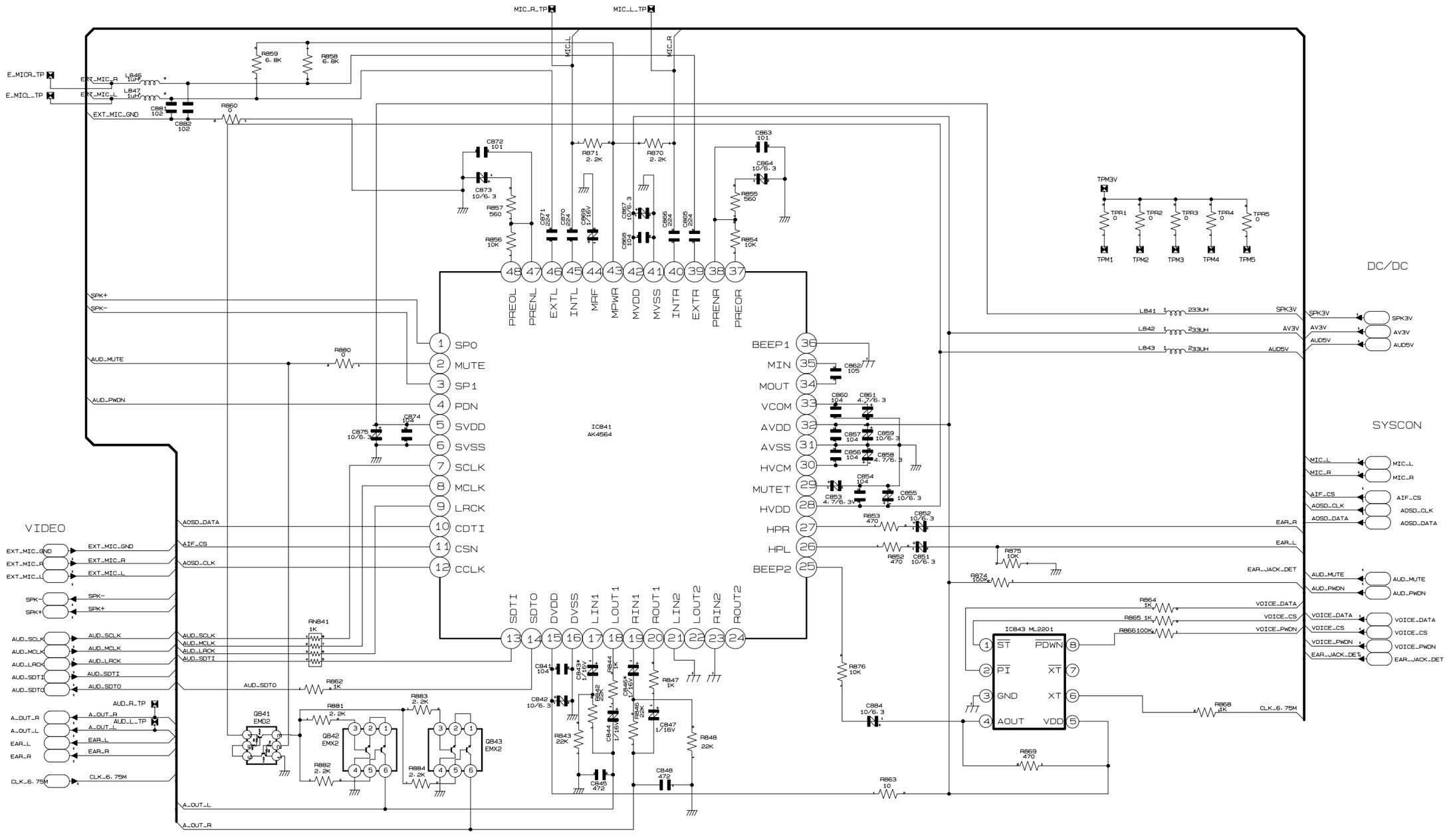
5-4 SERVO


CN601
52745-1890
COIL_U
COIL_U
COIL_W
COIL_W
COILL_V
COILL_V
HALL_GND
Hw(-)
Hw(+)
HALL_VCC
HU(+)
HU(-)
HV(+)
HV(-)
FG(-)
FG_GND
FG_VCC
FG(+)
C601 104
C602 104
C603 104
CAP_U
CAP_W
CAP_V
HALL_GND
HW-
HW+
HALL_VCC
HU+
HU-
HV+
HV-
FG-
FG+
CN602
52745-1990
EOT_SENSOR_3V
EOT_SENSOR_IN
REEL_S_3V
REEL_S_SENSOR
REEL_S_GND
LED_IR_CA
LED_5V
CASS_SW_GND
CASS_SW
REEL_T_3V
REEL_T_SENSOR
REEL_T_GND
MIC_VCC
MIC_DATA
REC_SW
MIC_SCL
MIC_GND
START_SENSOR_3V
START_SENSOR_IN
R601 100K
R602 270
R603 56
R604 270
R605 100K
R606 330K/F
R607 330K/F
S_REEL_SENSOR
T/ELEDK
5S
CC_LOCK
T_REEL_SENSOR
MIC_VDD
MIC_DATA
REC_PROOF
MIC_CLK
CN603
52746-1090
NC
DEW_GND
DEW
L/M_REV
L/M_REV
COMMON_MODE
SIGNAL1
SIGNAL2
L/M_FWD
L/M_FWD
R609 39K/F
R610 100K/F
R611 10K/F
R612 6.8K/F
C605 102
C606 104
DEW_SENSOR
L/M_REV
SYS3V
MODE_SW_AD
L/M_FWD
CN604
52746-1190
DRUM_W
DRUM_W
COIL_COM
GND
SENS_COM
DRUM_PG
DRUM_FG
DRUM_V
DRUM_V
DRUM_U
DRUM_U
C607 474
C608 474
C609 474
R613 68K
R614 20K
R615 20K
R616 100K
C610 104
IC602
NJM2904V
OUT1
IN1-
IN1+
V-
VH
OUT2
IN2-
IN2+
R617 68K
R618 20K
R619 20K
R620 100K
10uH
L601
Q602
2SB1121
C612
10/16V
(3528)
R624 47K
Q603
2SA1774-Q
C611
10/6.3V
(2012)
C613 104
Q604
EMX2
R625 10K/F
R622 2.7K
R623 20K/F
TOP_SENSOR
EOT_SENSOR
T/E_LED
Q601
DTC114EE
HV+
HV-
HW+
HW-
CAP_VS
HALL_VCC
HALL_GND
CAP_FR
FG+
FG-
CAP_FG
DRUM_FG
C615 104
C616 104
C617 104
R649 22K
R650 680K
C618 473
C619 473
C620 104
IC601
LB11990W
C_VIN1
C_VIN2
C_WIN1
C_WIN2
C_VS
C_W+
C_W-
VCC(5.5V)
C_FR
C_ANGLE
C_FGIN+
C_FGIN-
C_FGOUT
D_FGOUT
D_FGIN2
D_FGIN1
D_FGIN
D_VREF
D_PGIN
D_PGC
D_PGOUT
GND
D_WIN
D_VIN
D_UIN
D_COM
VCC1(3V)
D_FC2
D_FILTER
D_FC1
D_OSC
D_FR
C_CAP_ON
L_UNLOAD
L_LOAD
L_VS
AMP-_IS_REEL
AMP+_IS_REEL
AMP-_OUTS_REEL
AMP-_OUTT_REEL
AMP+_IT_REEL
D_SEL_CSLP
D_CSLP1
D_CSLP2
BRG
D_DRUM_ON
C_VIN2
C_UIN2
C_UIN1
C_WOUT
C_RF
C_VOUT
NC
C_UOUT
D_WOUT
D_RF
D_VOUT
D_UOUT
D_VS
L_OUT2
L_RF
L_OUT1
L_RS
NC
C_CAP_ON
L_UNLOAD
L_LOAD
L_VS
HU-
HU+
CAP_W
CAP_V
CAP_U
DRUM_W
DRUM_V
DRUM_U
L/M_FWD
L/M_REV
5S
S_REEL_SENSOR
T_REEL_SENSOR
R626 1
R627 1
R628 1
R629 1
R630 1
(2012)
R636 33K
R637 33K
R643 30K
R644 30K
R652 1M
R653 22K
C621 105
C622 101
C623 101
C624 101
C625 333
C626 104
C627 104
C628 104
C629 104
C631 222
C632 222
CAP_ON
UNLOAD
LOAD
DC/DC
SS5V
SS3V
DRUM_VS
CAP_VS
SYS3V
SS5V
UNREG
SS3V
DRUM_VS
CAP_VS
SYS3V
TIMER
MIC_VDD
MIC_DATA
MIC_CLK
CC_LOCK
DEW_SENSOR
MIC_VDD
MIC_DATA
MIC_CLK
CC_LOCK
DEW_SENSOR
VIDEO
T_REEL_FG
S_REEL_FG
CAP_FG
DRUM_FG
DRUM_PG
T_REEL_FG
S_REEL_FG
CAP_FG
DRUM_FG
DRUM_PG
SYSCON
CC_LOCK
MODE_SW_AD
REC_PROOF
TOP_SENSOR
EOT_SENSOR
CC_LOCK
MODE_SW_AD
REC_PROOF
TOP_SENSOR
EOT_SENSOR
T/E_LED
LOAD
UNLOAD
CAP_ON
CAP_FR
DRUM_ON
T/E_LED
LOAD
UNLOAD
CAP_ON
CAP_FR
DRUM_ON
D_FG
D_FG/PG_COMMON
D_PG
DRUM_PG
COIL_COM
DRUM_ON
T_REEL_FG
S_REEL_FG

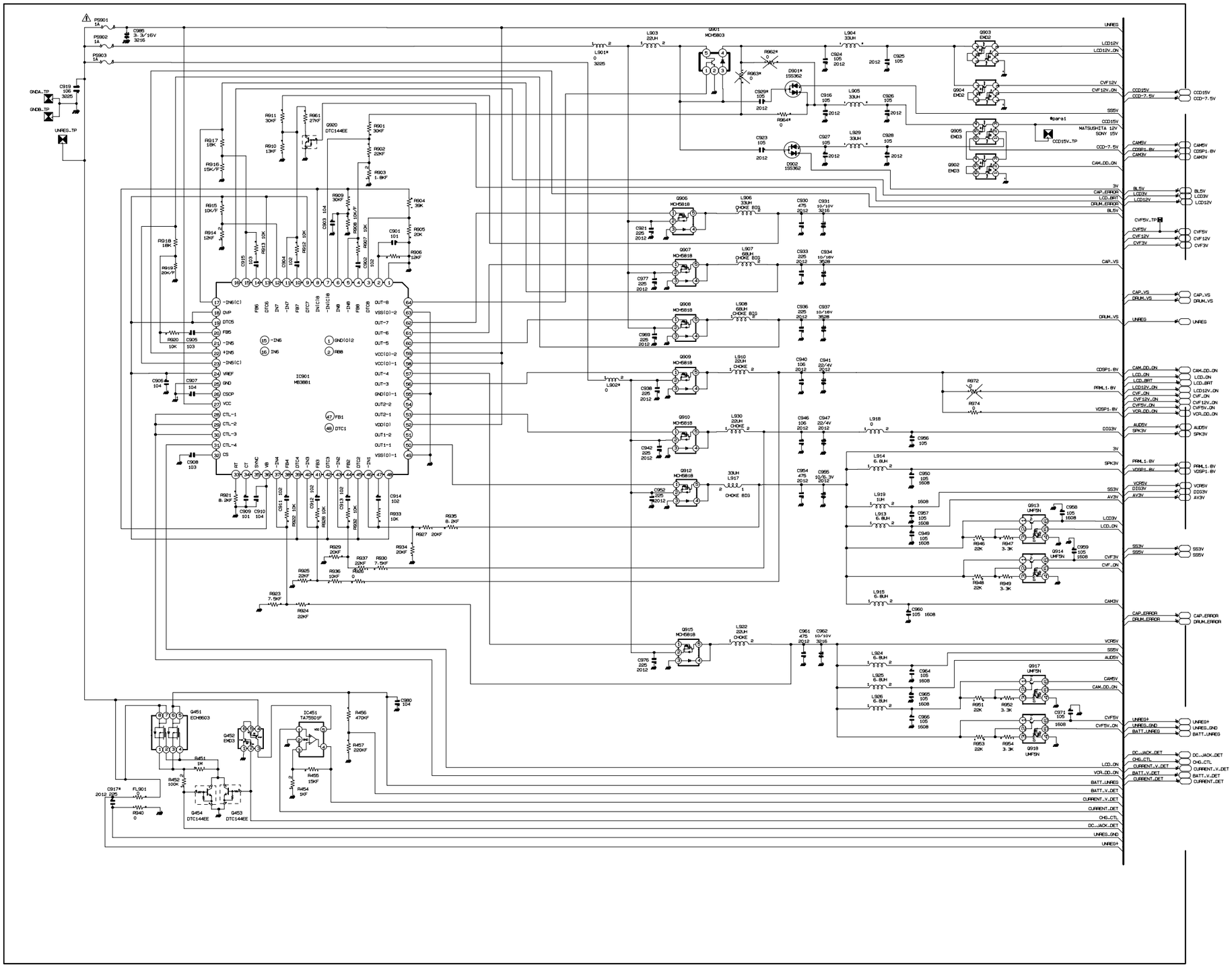
5-5 SYSCON

IC701
uPD703166Y-D
FROM/TO DC/DC
FROM/TO DV_1CHIP
FROM/TO 1394 PHY
TO PRML
FROM/TO CAMERA
FROM/TO AUDIO
FROM/TO VIDEO I/F
FROM/TO SERVO
IC703 XC6413F70MR
IC702 R5C372A
IC706 TK71250SC
IC707 XC6413C28MR
IC708 NC7SV08
IC705 S524A80X91
Q701 2SA1774
Q702 DTC144EE
Q703 DTC144EE
Q704 DTC144EE
D701 1SS400TL
D702 1SS400TL
X701 12.5MHZ
X702 32.768KHZ
CN702 52559-1290
CN703 52746-1490
CN704 0.8MM-18P
CN705 53309-1891
CN701 54102-0208

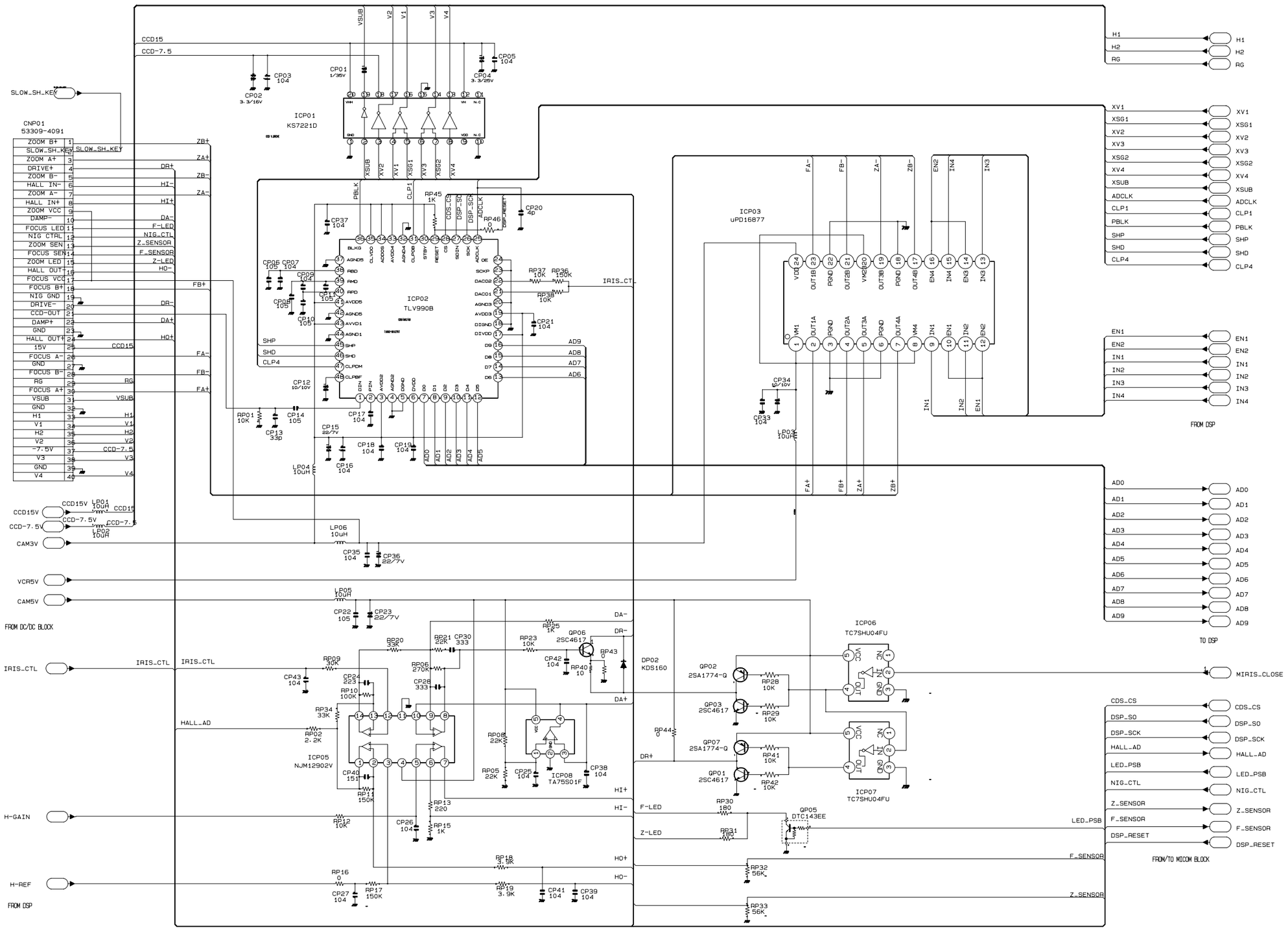
5-6 AUDIO


MIC_R_TP
MIC_L_TP
MIC_L
MIC_R
E_MICR_TP
E_MICL_TP
EXT_MIC_R
EXT_MIC_L
EXT_MIC_GND
L846 1uH
L847 1uH
R859 6.8K
R858 6.8K
C881 102
C882 102
R860 0
C872 101
C873 10/6.3
R857 560
R856 10K
C871 224
C870 224
C869 1/16V
C868 104
C867 10/6.3
C866 224
C865 224
R871 2.2K
R870 2.2K
C863 101
C864 10/6.3
R855 560
R854 10K
PREOL
PRENL
EXTL
INTL
MAF
MPWR
MVDD
MVSS
INTR
EXTR
PRENR
PREOR
SPK+
SPK-
AUD_MUTE
AUD_PWDN
R880 0
1 SP0
2 MUTE
3 SP1
4 PDN
5 SVDD
6 SVSS
7 SCLK
8 MCLK
9 LRCK
10 CDTI
11 CSN
12 CCLK
C874 104
C875 10/6.3
IC841
AK4564
BEEP1 36
MIN 35
MOUT 34
VCOM 33
AVDD 32
AVSS 31
HVCM 30
MUTET 29
HVDD 28
HPR 27
HPL 26
BEEP2 25
C862 105
C860 104
C861 4.7/6.3
C857 104
C859 10/6.3
C856 104
C858 4.7/6.3
C854 104
C853 4.7/6.3V
C855 10/6.3
R853 470
C852 10/6.3
R852 470
C851 10/6.3
TPM3V
TPR1 0
TPR2 0
TPR3 0
TPR4 0
TPR5 0
TPM1
TPM2
TPM3
TPM4
TPM5
DC/DC
L841 33UH
L842 33UH
L843 33UH
SPK3V
AV3V
AUD5V
SYSCON
MIC_L
MIC_R
AIF_CS
AOSD_CLK
AOSD_DATA
EAR_R
EAR_L
EAR_JACK_DET
R875 10K
R874 100K
VIDEO
EXT_MIC_GND
EXT_MIC_R
EXT_MIC_L
SPK-
SPK+
AUD_SCLK
AUD_MCLK
AUD_LRCK
AUD_SDTI
AUD_SDTO
RN841 1K
R862 1K
AUD_A_TP
AUD_L_TP
A_OUT_R
A_OUT_L
EAR_L
EAR_R
CLK_6.75M
Q841 EMD2
Q842 EMX2
Q843 EMX2
R881 2.2K
R882 2.2K
R883 2.2K
R884 2.2K
SDTI 13
SDTO 14
DVDD 15
DVSS 16
LIN1 17
LOUT1 18
RIN1 19
ROUT1 20
LIN2 21
LOUT2 22
RIN2 23
ROUT2 24
C841 104
C842 10/6.3
C843 1/16V
R844 1K
R845 22K
C844 1/16V
R846 22K
R847 1K
C847 1/16V
R843 22K
R848 22K
C845 472
C848 472
R863 10
R876 10K
C884 10/6.3
IC843 ML2201
ST
PDWN
PI
XT
GND
XT
AOUT
VDD
R864 1K
R865 1K
R866 100K
R868 1K
R869 470
VOICE_DATA
VOICE_CS
VOICE_PWDN
CLK_6.75M

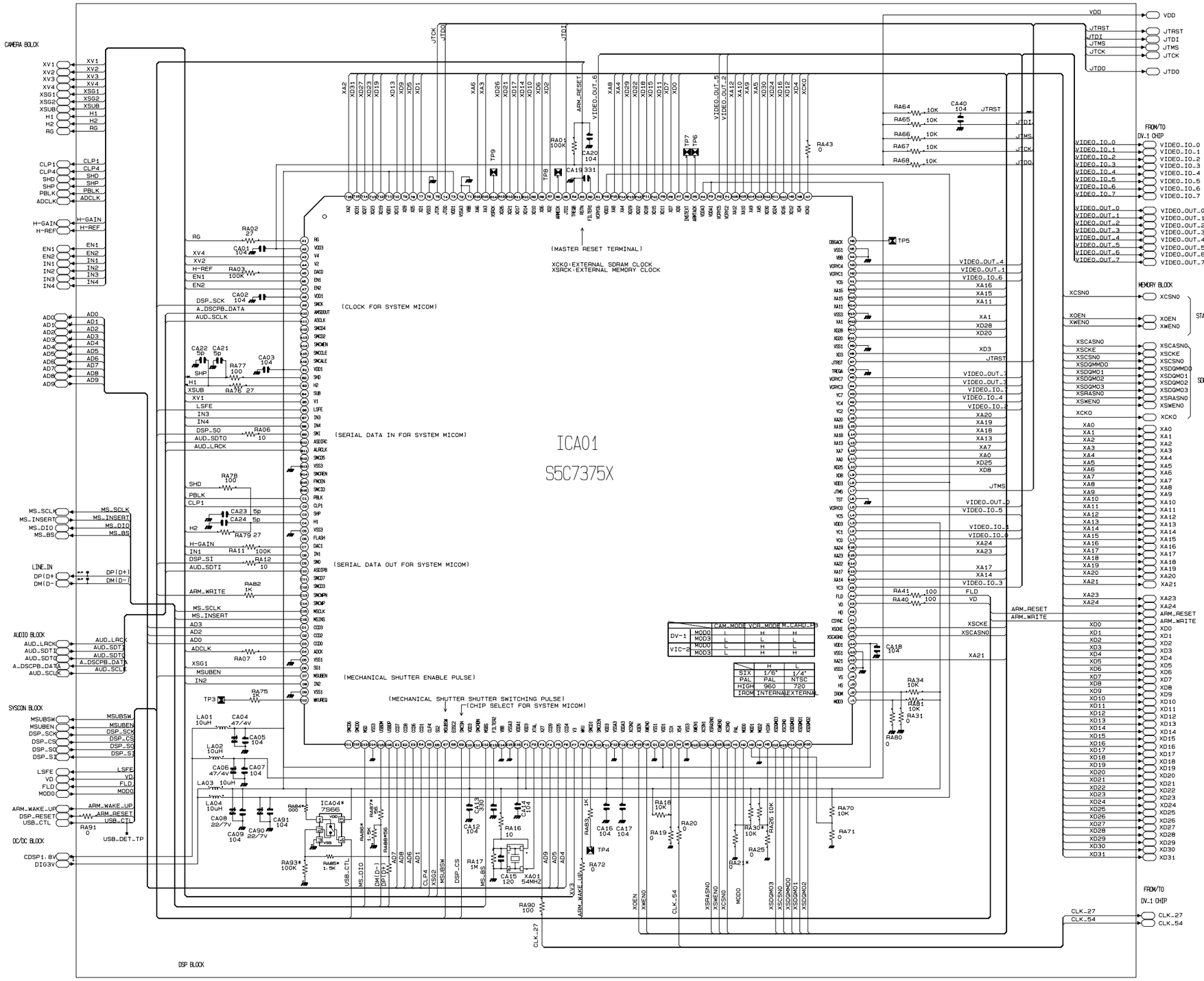
5-7 DC/DC CONVERTER



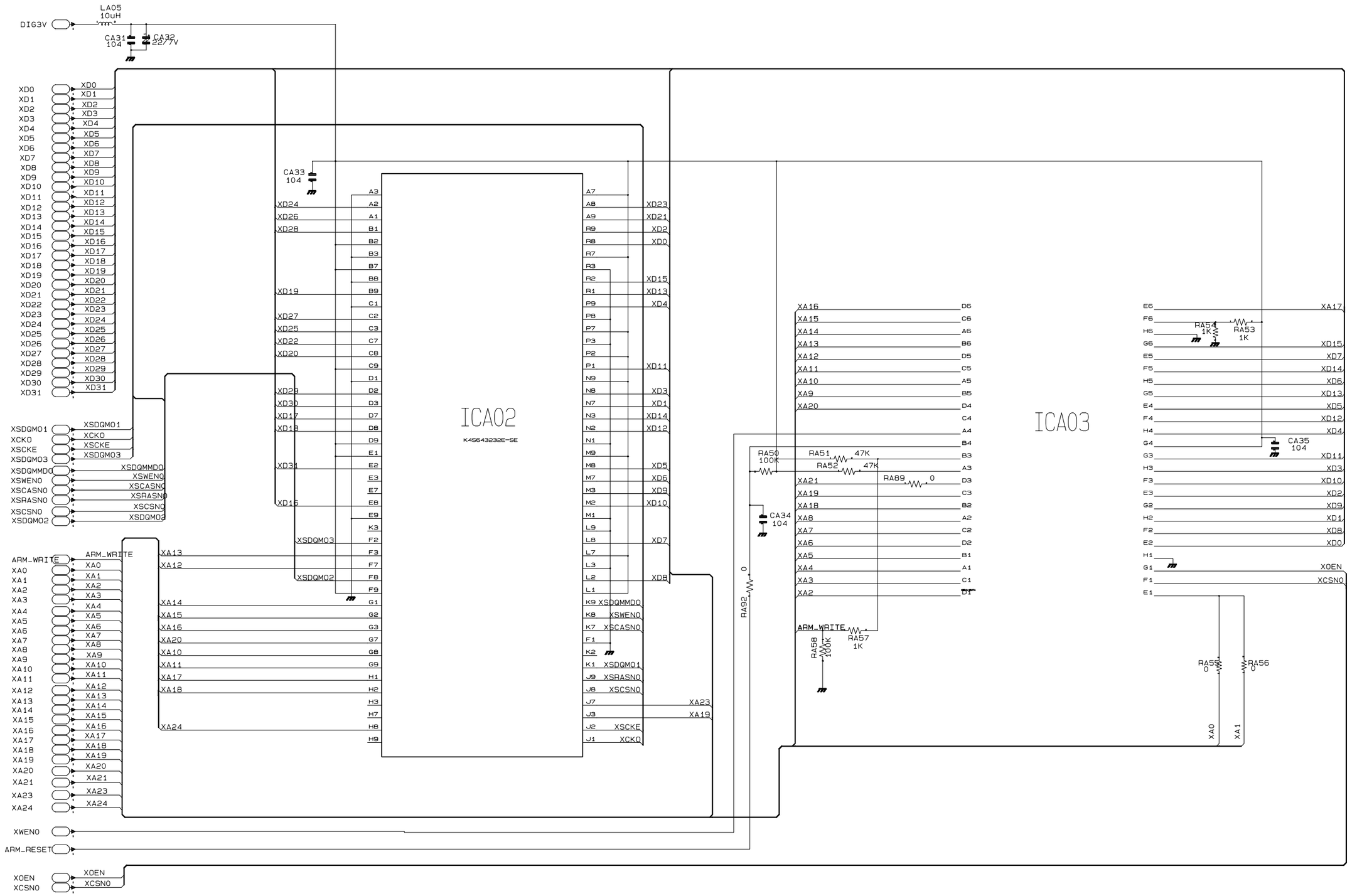
5-8 Camera Process



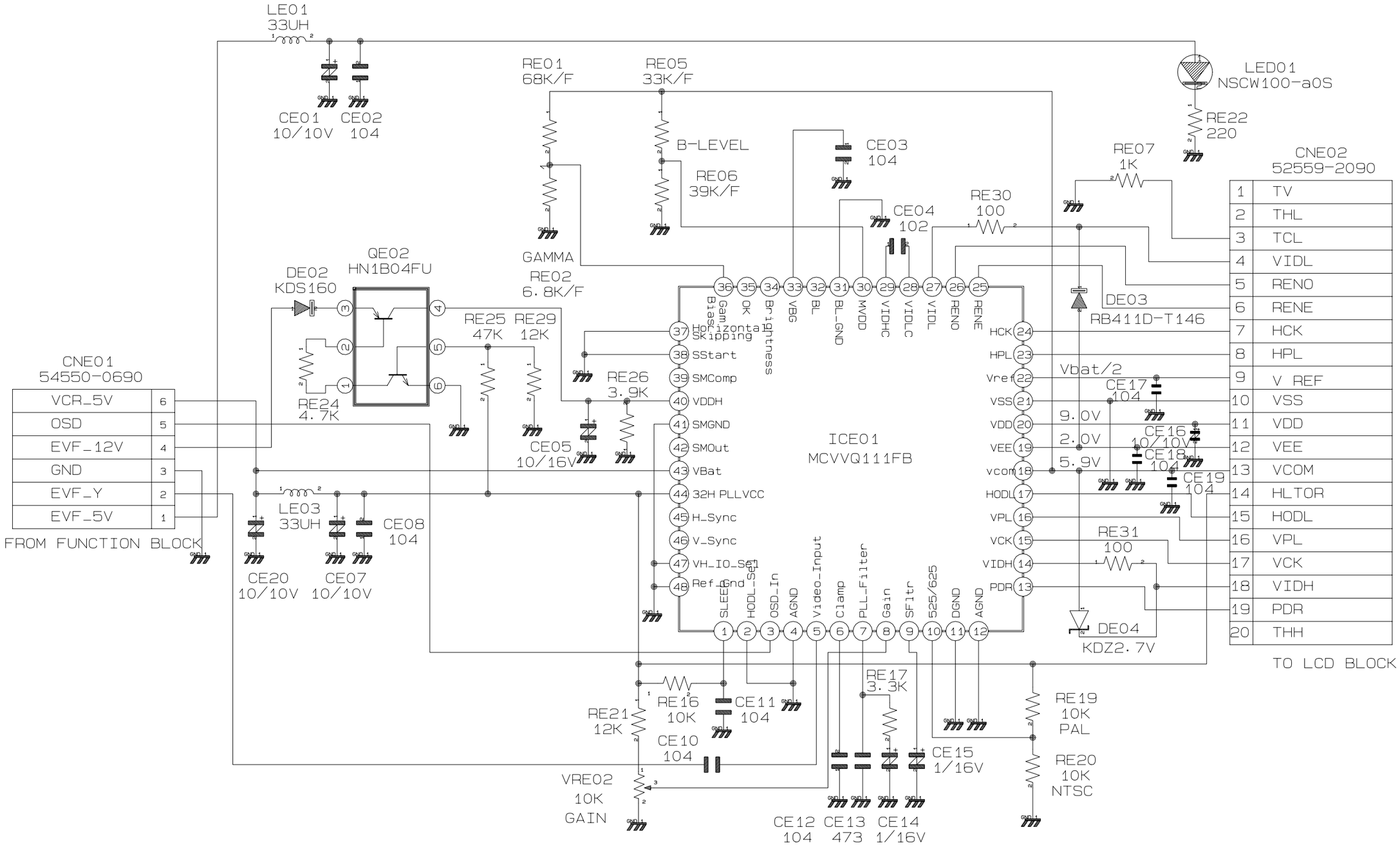
5-9 Camera DSP



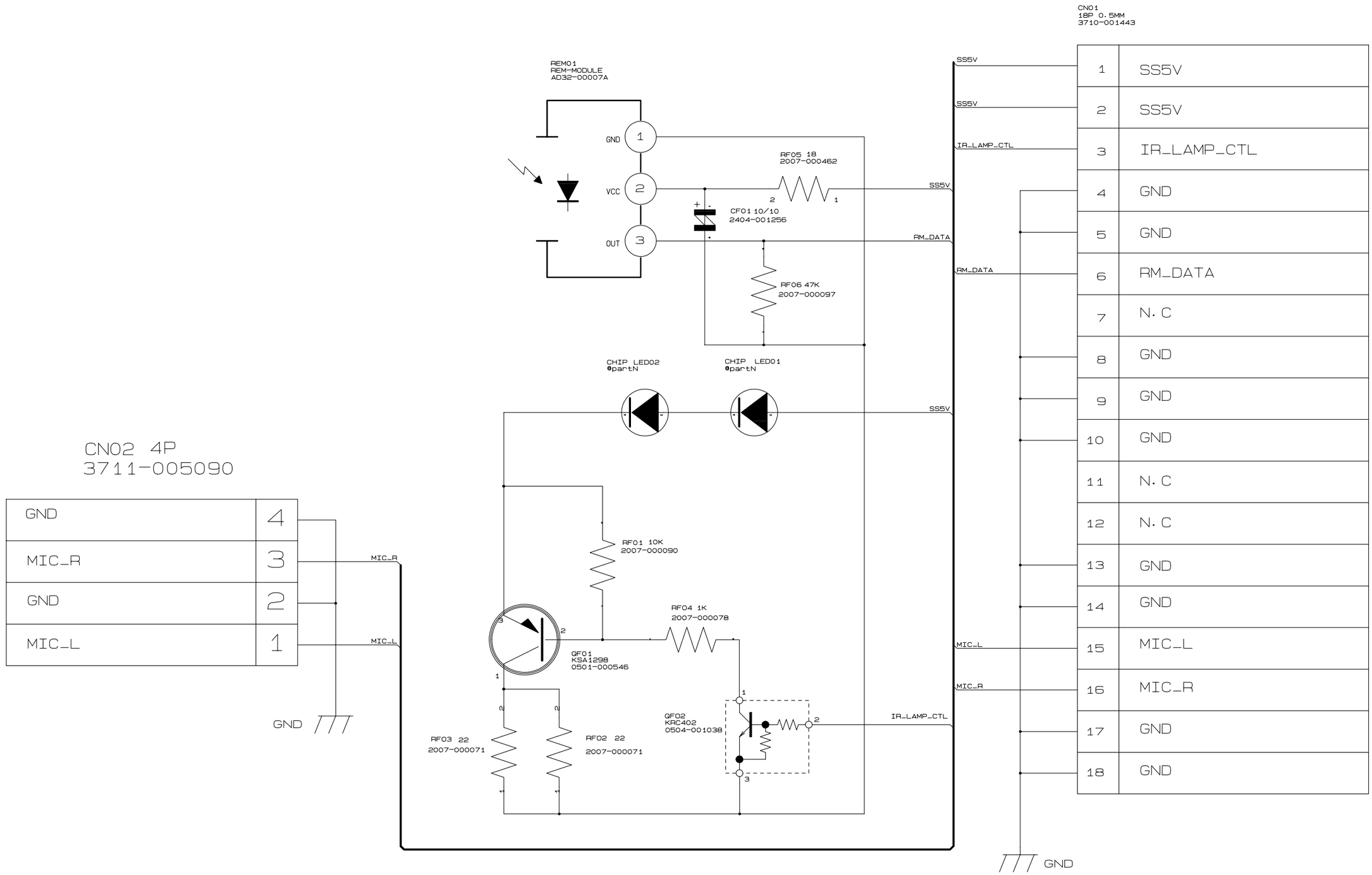
5-10 Camera Memory Block



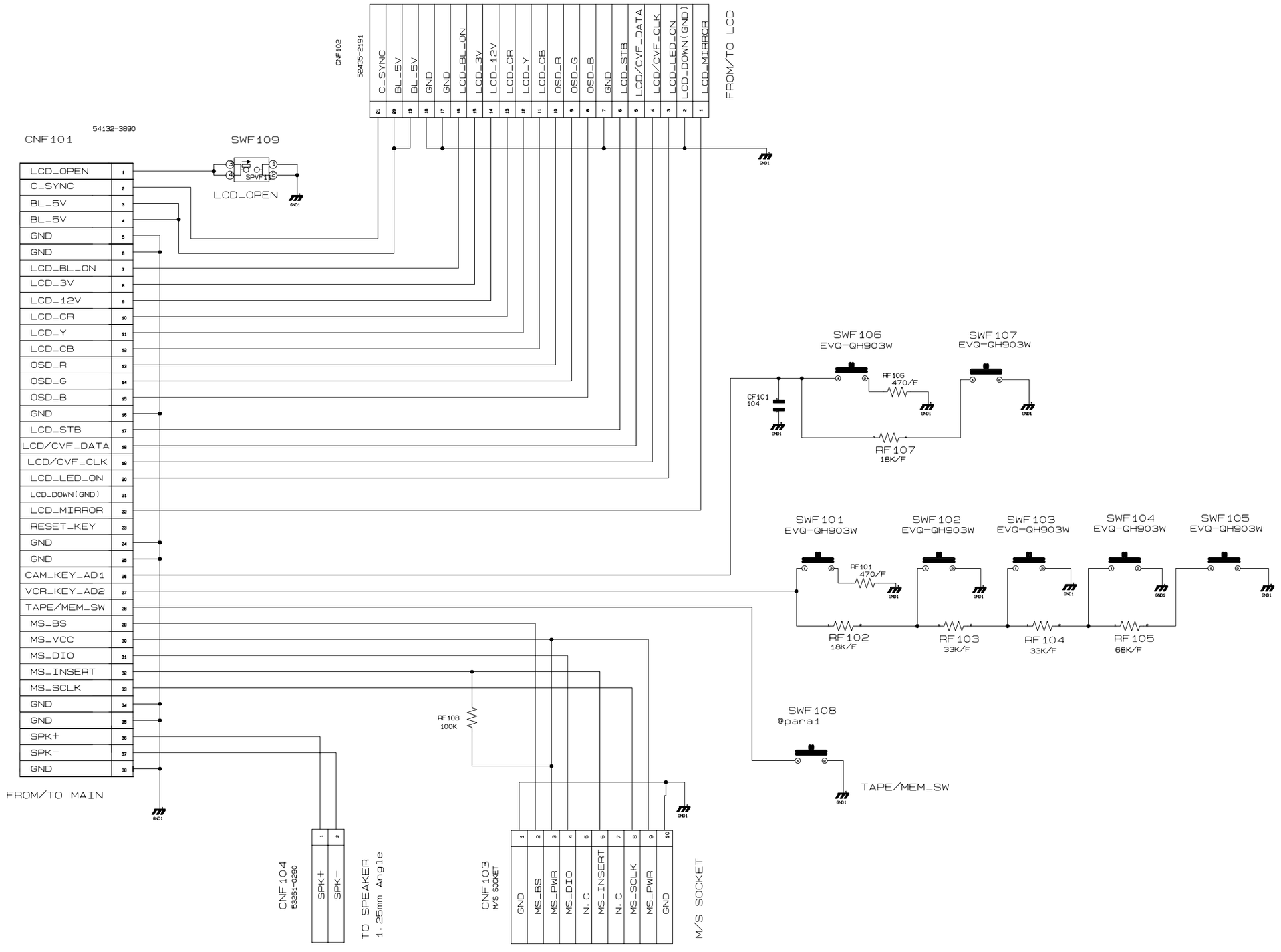
5-11 EVF


LE01
33UH
CE01
10/10V
CE02
104
RE01
68K/F
RE05
33K/F
B-LEVEL
RE06
39K/F
CE03
104
CE04
102
RE30
100
RE07
1K
LED01
NSCW100-a0S
RE22
220
CNE02
52559-2090
1 TV
2 THL
3 TCL
4 VIDL
5 RENO
6 RENE
7 HCK
8 HPL
9 V REF
10 VSS
11 VDD
12 VEE
13 VCOM
14 HLTOR
15 HODL
16 VPL
17 VCK
18 VIDH
19 PDR
20 THH
TO LCD BLOCK
GAMMA
RE02
6.8K/F
QE02
HN1B04FU
DE02
KDS160
RE24
4.7K
RE25
47K
RE29
12K
RE26
3.9K
CE05
10/16V
DE03
RB411D-T146
Vbat/2
CE17
104
9.0V
CE16
10/10V
2.0V
CE18
104
5.9V
CE19
104
RE31
100
DE04
KDZ2.7V
CNE01
54550-0690
VCR_5V 6
OSD 5
EVF_12V 4
GND 3
EVF_Y 2
EVF_5V 1
FROM FUNCTION BLOCK
LE03
33UH
CE08
104
CE20
10/10V
CE07
10/10V
ICE01
MCVVQ111FB
36 Gamma Bias
35 OK
34 Brightness
33 VBG
32 BL
31 BL_GND
30 MVDD
29 VIDHC
28 VIDLC
27 VIDL
26 RENO
25 RENE
37 Horizontal Skipping
38 SStart
39 SMComp
40 VDDH
41 SMGND
42 SMOut
43 VBat
44 32H PLLVCC
45 H_Sync
46 V_Sync
47 VH_IO_Set
48 Ref_Gnd
HCK 24
HPL 23
Vref 22
VSS 21
VDD 20
VEE 19
vcom 18
HODL 17
VPL 16
VCK 15
VIDH 14
PDR 13
1 SLEEP
2 HODL_Set
3 OSD_In
4 AGND
5 Video_Input
6 Clamp
7 PLL_Filter
8 Gain
9 SFltr
10 525/625
11 DGND
12 AGND
RE21
12K
RE16
10K
CE11
104
CE10
104
VRE02
10K
GAIN
RE17
3.3K
CE15
1/16V
CE12
104
CE13
473
CE14
1/16V
RE19
10K
PAL
RE20
10K
NTSC

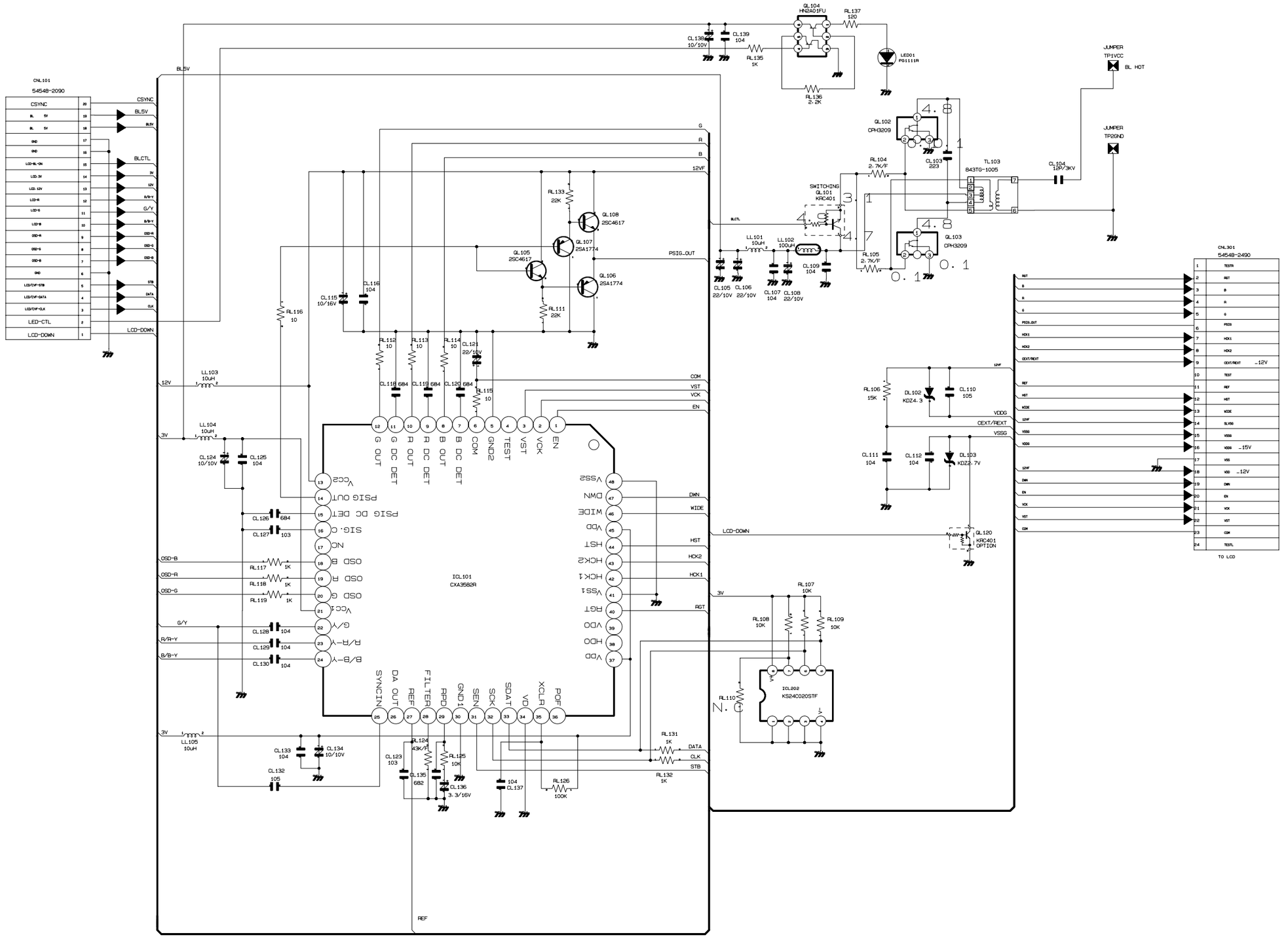
5-12 Front


CN01
18P 0.5MM
3710-001443
1 SS5V
2 SS5V
3 IR_LAMP_CTL
4 GND
5 GND
6 RM_DATA
7 N.C
8 GND
9 GND
10 GND
11 N.C
12 N.C
13 GND
14 GND
15 MIC_L
16 MIC_R
17 GND
18 GND
REM01
REM-MODULE
AD32-00007A
GND
VCC
OUT
RF05 18
2007-000462
CF01 10/10
2404-001256
RF06 47K
2007-000097
CHIP LED02
@partN
CHIP LED01
@partN
RF01 10K
2007-000090
RF04 1K
2007-000078
QF01
KSA1298
0501-000546
RF03 22
2007-000071
RF02 22
2007-000071
QF02
KRC402
0504-001038
CN02 4P
3711-005090
GND 4
MIC_R 3
GND 2
MIC_L 1
SS5V
IR_LAMP_CTL
RM_DATA
MIC_L
MIC_R
GND

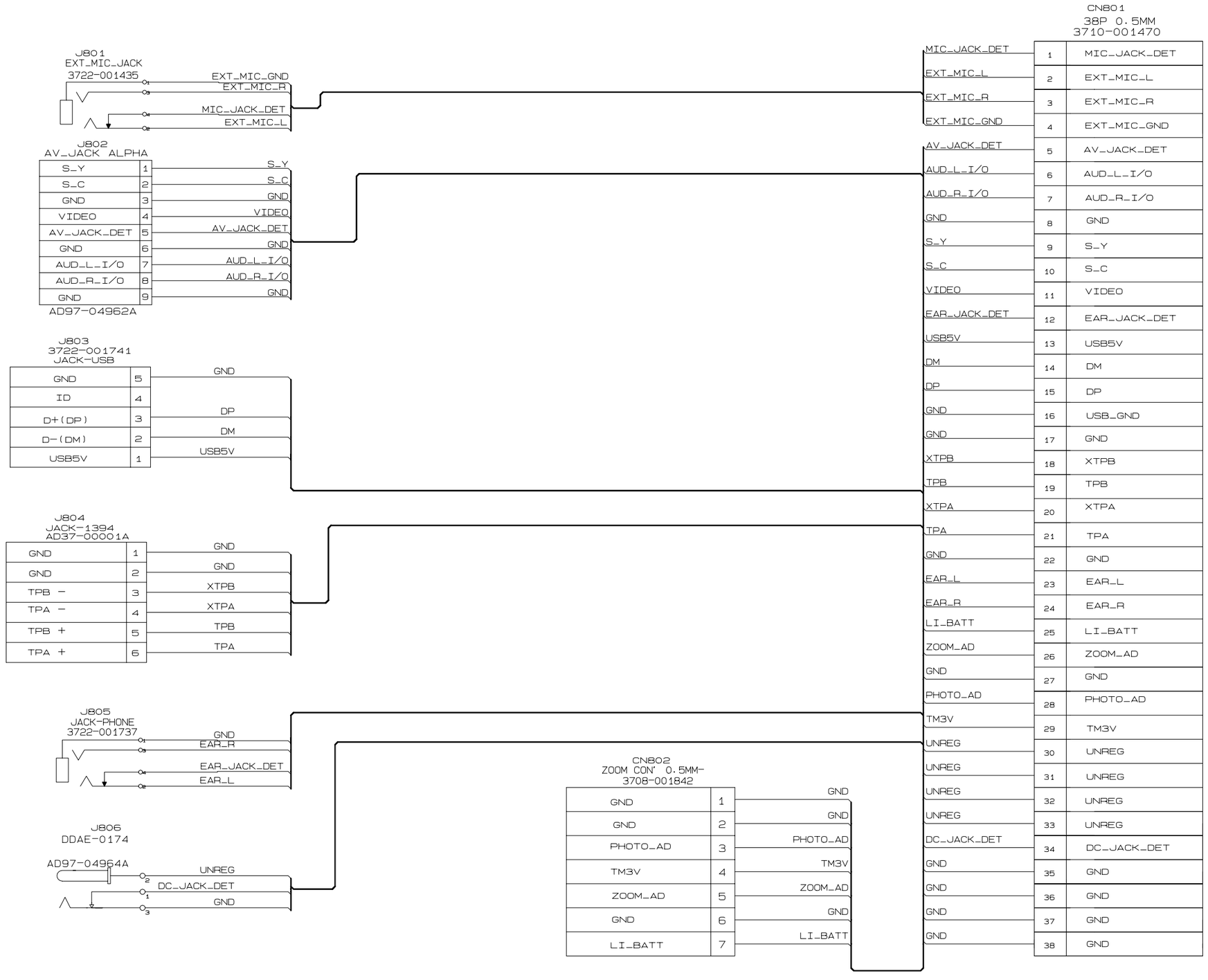
5-13 Function



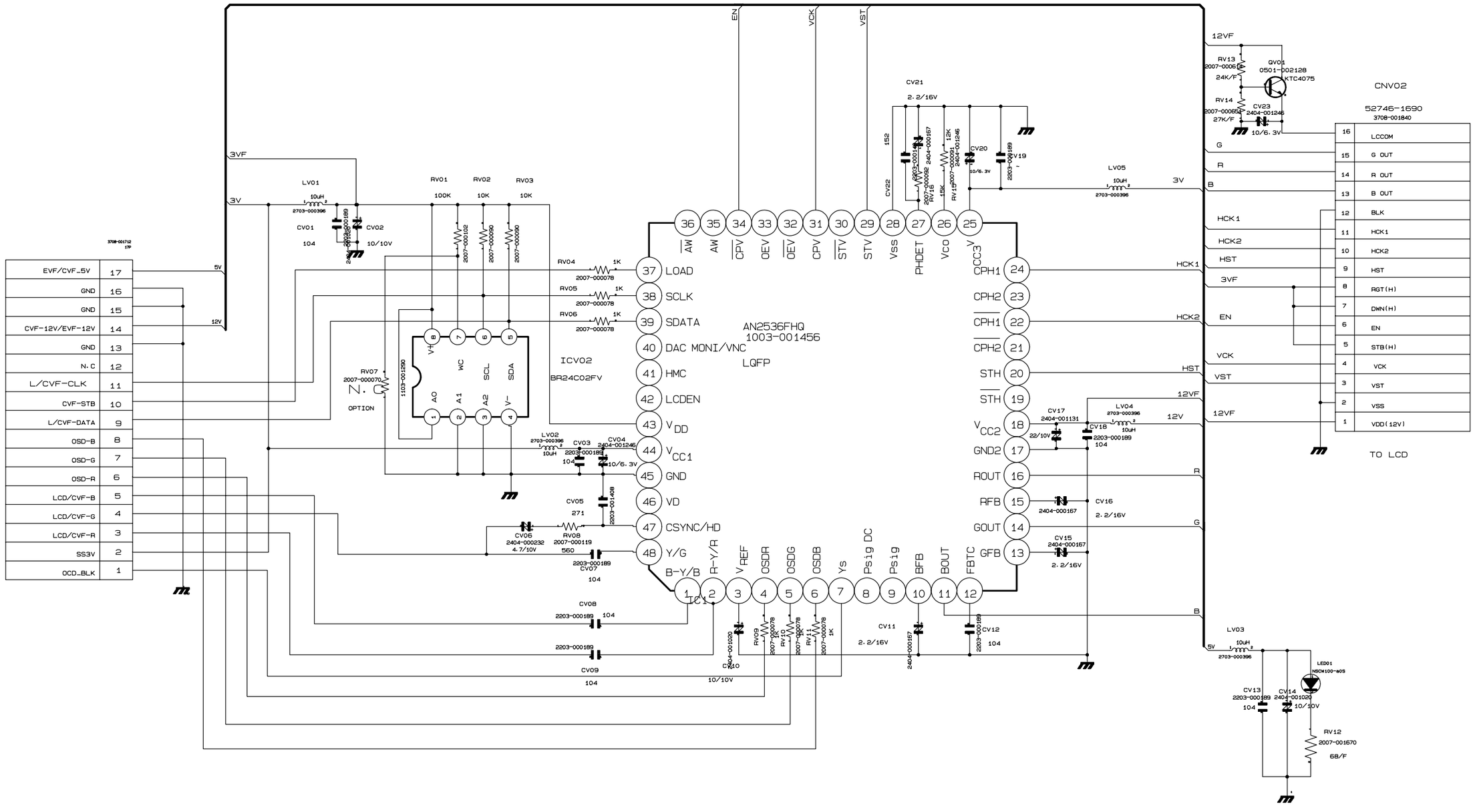
5-14 LCD


CNL101
54548-2090
CSYNC
BL 5V
BL 5V
GND
GND
LCD-BL-ON
LCD 3V
LCD 12V
LCD-R
LCD-G
LCD-B
OSD-R
OSD-G
OSD-B
GND
LCD/DAT-STB
LCD/DAT-DATA
LCD/DAT-CLK
LED-CTL
LCD-DOWN
BL5V
BLCTL
G/Y
R/R-Y
B/B-Y
STB
DATA
CLK
QL104 HN2A01FU
RL137 120
CL138 10/10V
CL139 104
RL135 1K
RL136 2.2K
LED01 PG1111R
JUMPER TP1VCC
BL HOT
JUMPER TP2GND
QL102 CPH3209
CL103 223
TL103 843TG-1005
CL104 120/3KV
RL104 2.7K/F
SWITCHING QL101 KRC401
RL105 2.7K/F
QL103 CPH3209
LL101 10uH
LL102 100uH
CL105 22/10V
CL106 22/10V
CL107 104
CL108 22/10V
CL109 104
PSIG_OUT
RL133 22K
QL108 2SC4617
QL107 2SA1774
QL105 2SC4617
QL106 2SA1774
RL111 22K
RL116 10
CL115 10/16V
CL116 104
RL112 10
RL113 10
RL114 10
CL121 22/10V
CL118 684
CL119 684
CL120 684
RL115 10
LL103 10uH
LL104 10uH
CL124 10/10V
CL125 104
CL126 684
CL127 103
CL128 104
CL129 104
CL130 104
RL117 1K
RL118 1K
RL119 1K
OSD-B
OSD-R
OSD-G
G/Y
R/R-Y
B/B-Y
ICL101 CXA3582R
G OUT
G DC DET
R OUT
R DC DET
B OUT
B DC DET
COM
GND2
TEST
VST
VCK
EN
VCC2
PSIG OUT
PSIG DC DET
SIG. C
NC
OSD B
OSD R
OSD G
VCC1
G/Y
R/R-Y
B/B-Y
VSS2
DWN
WIDE
VDD
HST
HCK2
HCK1
VSS1
RGT
VDD
HDO
VDD
SYNCIN
DA OUT
REF
FILTER
RPD
GND1
SEN
SCK
SDAT
VD
XCLR
POR
LL105 10uH
CL133 104
CL134 10/10V
CL132 105
RL124 43K/F
RL125 10K
CL123 103
CL135 682
CL136 3.3/16V
104 CL137
RL126 100K
RL131 1K
RL132 1K
DATA
CLK
STB
RST
RGT
HST
HCK2
HCK1
VST
VCK
DWN
WIDE
EN
REF
RL106 15K
DL102 KDZ4.3
CL110 105
CL111 104
CL112 104
DL103 KDZ2.7V
VDDG
CEXT/REXT
VSSG
LCD-DOWN
QL120 KRC401 OPTION
RL107 10K
RL108 10K
RL109 10K
RL110
ICL202 KS24C020STF
CNL301
54548-2490
TESTR
RST
B
R
G
PSIG-OUT
HCK1
HCK2
CEXT/REXT
TEST
REF
HST
WIDE
SLVSS
VSSG
VDDG
VSS
VDD
DWN
EN
VCK
VST
COM
TESTL
-12V
-15V
-12V
TO LCD

5-15 Jack Board



5-16 CVF


EVF/CVF-5V 17
GND 16
GND 15
CVF-12V/EVF-12V 14
GND 13
N.C 12
L/CVF-CLK 11
CVF-STB 10
L/CVF-DATA 9
OSD-B 8
OSD-G 7
OSD-R 6
LCD/CVF-B 5
LCD/CVF-G 4
LCD/CVF-R 3
SS3V 2
OCD_BLK 1
5V
12V
3VF
3V
LV01 10uH 2703-000396
CV01 104
CV02 10/10V
RV01 100K
RV02 10K
RV03 10K
RV04 1K 2007-000078
RV05 1K 2007-000078
RV06 1K 2007-000078
LOAD
SCLK
SDATA
DAC MONI/VNC
HMC
LCDEN
VDD
VCC1
GND
VD
CSYNC/HD
Y/G
B-Y/B
R-Y/R
VREF
OSDR
OSDG
OSDB
YS
Psig DC
Psig
BFB
BOUT
FBTC
AN2536FHQ
1003-001456
LQFP
ICV02
BR24C02FV
RV07 2007-000070 OPTION
1103-001250
LV02 2703-000396 10uH
CV03 2203-000189 104
CV04 2404-001246 10/6.3V
CV05 271
CV06 2404-000232 4.7/10V
RV08 2007-000119 560
CV07 104
CV08 2203-000189 104
CV09 104
CV10 10/10V
CV11 2.2/16V
CV12 2203-000189 104
EN
VCK
VST
CV21 2.2/16V
CV22 152
CV20 10/6.3V
CV19
RV16 15K
RV15 12K
LV05 10uH 2703-000396
CPH1
CPH2
STH
VCC2
GND2
ROUT
RFB
GOUT
GFB
CV17 2404-001131 22/10V
CV18 2203-000189 104
LV04 2703-000396 10uH
CV16 2404-000167 2.2/16V
CV15 2404-000167 2.2/16V
12VF
RV13 2007-000065 24K/F
QV01 0501-002128 KTC4075
RV14 2007-000054 27K/F
CV23 2404-001246 10/6.3V
CNV02
52746-1690
3708-001840
LCCOM
G OUT
R OUT
B OUT
BLK
HCK1
HCK2
HST
RGT(H)
DWN(H)
EN
STB(H)
VCK
VST
VSS
VDD(12V)
TO LCD
LV03 10uH 2703-000396
LED01 NSCW100-mOS
CV13 2203-000189 104
CV14 2404-001020 10/10V
RV12 2007-001670 68/F

MEMO